

**APPENDIX F: IMPACT ASSESSMENT FOR THE PROPOSED EXPANSION OF
THE KOMSBERG MAIN TRANSMISSION SUBSTATION (MTS) AND ASSOCIATED
INFRASTRUCTURE NEAR SUTHERLAND, NORTHERN CAPE PROVINCE**

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INTRODUCTION

Eskom Holdings SOC Ltd is proposing to expand the existing Komsberg Main Transmission Substation (MTS). The expansion area (approximately 19.8ha), will fall within the Eskom property and is located next to and between the positions of the existing capacitor banks installation. The existing infrastructure on site (e.g. capacitor banks) will form part of the proposed expanded substation footprint and some relocation of the existing infrastructure will take place. The total footprint of the proposed expanded Komsberg MTS is likely to be approximately 440m x 450m, all on Eskom property.

The proposed development entails the following:

- » Expansion of the Komsberg MTS to a total footprint of 19.8ha (440m x 450m);
- » Establishment of 400/132kV transformation and 132kV feeder bays for line connections;
- » Relocation of capacitor banks; and
- » The upgrading of the existing access road into the substation.

Site Location

The Komsberg MTS is located approximately 30km north of Matjiesfontein and 50km south of Sutherland within the Karoo Hoogland Local Municipality in the Northern Cape Province (refer to Table 1.1 below). The following property forms part of the application for the proposed expansion of the Komsberg MTS:

- » Portion 2 of the Farm Standvastigheid 210

Table 1.1: Location of the study area

Province	Northern Cape Province
District Municipality	Namakwa District Municipality
Local Municipality	Karoo Hoogland Local Municipality
Ward number(s)	Ward 4 - Karoo Hoogland Local Municipality
Nearest town(s)	~30km north of Matjiesfontein and ~50 km south of Sutherland
Farm name(s) and number(s)	Standvastigheid 210
Portion number(s)	Portion 2
SG 21 Digit Code	C07200000000021000002
Co-ordinates	32°56'1.37"S 20°35'40.39"E

- » The **nature**, a description of what causes the effect, what will be affected, and how it will be affected.
- » The **extent**, wherein it is indicated whether the impact will be local (limited to the immediate area or site of development), regional, national or international. A score of between 1 and 5 is assigned as appropriate (with a score of 1 being low and a score of 5 being high).
- » The **duration**, wherein it is indicated whether:
 - * The lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
 - * The lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
 - * Medium-term (5–15 years) – assigned a score of 3;
 - * Long term (> 15 years) - assigned a score of 4; or;
 - * Permanent - assigned a score of 5.
- » The **magnitude**, quantified on a scale from 0-10, where a score is assigned:
 - * 0 is small and will have no effect on the environment;
 - * 2 is minor and will not result in an impact on processes;
 - * 4 is low and will cause a slight impact on processes;
 - * 6 is moderate and will result in processes continuing but in a modified way;
 - * 8 is high (processes are altered to the extent that they temporarily cease); and
 - * 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- » The **probability** of occurrence, which describes the likelihood of the impact actually occurring. Probability is estimated on a scale, and a score assigned:
 - * Assigned a score of 1–5, where 1 is very improbable (probably will not happen);
 - * Assigned a score of 2 is improbable (some possibility, but low likelihood);
 - * Assigned a score of 3 is probable (distinct possibility);
 - * Assigned a score of 4 is highly probable (most likely); and
 - * Assigned a score of 5 is definite (impact will occur regardless of any prevention measures).
- » The **significance**, which is determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high.
- » The **status**, which is described as positive, negative or neutral.
- » The degree to which the impact can be reversed.
- » The degree to which the impact may cause irreplaceable loss of resources.
- » The degree to which the impact can be mitigated.

The **significance** is determined by combining the criteria in the following formula:

$S = (E+D+M) P$; where

S = Significance weighting

E = Extent

D = Duration
M = Magnitude
P = Probability

The **significance** weightings for each potential impact are as follows:

- » < **30 points**: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- » **30-60 points**: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- > **60 points**: High (i.e. where the impact must have an influence on the decision process to develop in the area).

The sections below provide an impact assessment of the power line, as follows:

- » Section A: Impacts Associated with the proposed 132kV power line.
- » Section B: Assessment of Cumulative Impacts

SECTION A: IMPACTS ASSOCIATED WITH THE PROPOSED EXPANSION OF THE KOMSBERG MAIN TRANSMISSION SUBSTATION (MTS) AND ASSOCIATED INFRASTRUCTURE

1. Assessment of Potential Impacts on Ecology

The wider study area is located within vegetation containing both elements of Central Mountain Shale Renosterveld and Koedoesberge-Moordenaars Karoo Vegetation Types. There are sections within the wider study area that contain stronger relationships to Central Mountain Shale Renosterveld and other areas in contrast which relate stronger to Koedoesberge-Moordenaars Karoo. Therefore the study site can be regarded as a crossover (ecotone) area between Koedoesberge-Moordenaars Karoo and Central Mountain Shale Renosterveld.

To the north-east of the study site a non-perennial drainage line is present running in a north-easterly direction towards a small gravel / soil dam. Apart from the "Koedoesberge-Moordenaars Karoo – Central Mountain Shale Renosterveld crossover" variation, rocky patches with shallow to little soil also provides a variation in vegetation composition of the study area.

The extent of the development footprint area in this study is very limited and furthermore restricted to an area already transformed by the existing infrastructure.

No species of conservation concern, in terms of Threatened Species Program, was observed during the site investigation. A few species however were noted that are Protected according to Schedule 2 of the Northern Cape Nature Conservation Act, 2009 (Act No. 9 of 2009). Disturbance of the aforementioned species would require the relevant permits to be applied for to the NC DENC. Most of these protected species are capable of colonizing previously disturbed areas at an effective rate, either via the seedbank or from surrounding species which means that rehabilitation can be expected to have a high success rate. Species such as *Holothrix aspera*, *Babiana* spp. and mesembs such as *Hammeria salteri* and *Cheiridopsis namaquensis* occur less frequently within the surrounding landscape and should preferably be avoided or, if not possible, be removed prior to the development and transplanted outside the footprint area within a similar habitat type. The aforementioned would require the relevant permitting to be applied for from the NC DENC.

Sensitivity Assessment

The broader study site is located within vegetation containing both elements of Central Mountain Shale Renosterveld and Koedoesberge-Moordenaars Karoo Vegetation Types. There are sections within the broader study area that contain stronger relationships to Central Mountain Shale Renosterveld and other areas in contrast relates stronger to Koedoesberge-Moordenaars Karoo. Thus the study site can be regarded as a crossover

(ecotone) area between Koedoesberge-Moordenaars Karoo and Central Mountain Shale Renosterveld. To the north-east of the study site a non-perennial drainage line is present running in a north-easterly direction towards a small earthen dam. Apart from the "Koedoesberg-Moordenaars Karoo – Central Mountain Shale Renosterveld crossover" variation, rocky patches with shallow to little soil also provides a variation in vegetation composition of the study area.

1.1 Impact Assessment with the Construction and Operation of the Komsberg MTS

The majority of impacts associated with the development will occur during the construction phase as a result of the disturbance associated with the operation of heavy machinery at the site and the presence of construction personnel at the site. The following potential risks are identified as being associated with the development and assessed.

Construction Phase

Impacts on vegetation and listed or protected plant species

- » Some loss of vegetation is an inevitable consequence of the development. However, the footprint of the development, which is proposed within the existing and therefore somewhat disturbed Komsberg MTS, is very limited and there are no parts of the site which are highly sensitive or contain a high abundance of listed plant species. Although this impact is likely to be **low**, it is assessed for the construction phase as some protected species, in terms of the Northern Cape Nature Conservation Act, 2009 (Act No. 9 of 2009), are present at the site.

Direct and Indirect Faunal impacts

- » The construction of the Komsberg MTS will result in a slight loss of habitat for resident fauna, as some species are using the affected areas. In addition, increased levels of noise, potential pollution, disturbance and human presence during construction will be unfavourable to resident fauna. Sensitive and shy fauna may move away from the area during the construction phase as a result of the noise and human activities present, while some slow-moving species (such as mole rats) would not be able to avoid the construction activities and might be killed. From aforementioned it can be concluded that construction activities will most likely have a **low** impact with a slight potential for a low-moderate impact on the faunal component of the study area. During the operational phase, interactions between the infrastructure considered here and fauna are likely to be very **low**.
- » It is important to take note of the following, regarding the protected faunal species:

- Virtually all indigenous fauna which do not fall under Schedule 1 are classified under Schedule 2, except those species classified as pests. In terms of mammals most rodents (including mole rats), shrews, elephant shrews, bats, hares and rabbits, carnivores such as mongoose, genets, and meerkat, antelope such as mountain reedbeek, steenbok and duiker are included. In terms of other vertebrates, all tortoises, lizards, most harmless snakes and all frogs are listed under Schedule 2. The full list is contained within the Schedule and it is not repeated here.
- According to the Northern Cape Nature Conservation Act, 2009 (Act No. 9 of 2009), prohibited activities requiring permits include; hunting, importing, exporting, transporting, keeping, breeding or trading in protected species.

Impacts on drainage line

- » As the access road that will be upgraded will cross the drainage line some impact on the drainage line is inevitable. However, the current state of the access road is of such a nature that it contributes to current disturbed state of the drainage line and an upgrade of the road may ameliorate past impacts, which include moderate levels of erosion. Negative impacts that might occur with the absence of mitigation measures include increase runoff during downpours, acceleration of erosion, loss of soil and disturbance to indigenous vegetation. Impacts on the drainage lines are likely to occur during the construction phase, but as mentioned, without the necessary mitigation measures in place may have a permanent effect and even be cumulative over time (e.g. erosion)

Alien Plant Invasion

- » The disturbance associated with the construction phase of the project will render the disturbed areas vulnerable to alien plant invasion. Since the majority of the site is currently little impacted by alien plants, this could potentially have an impact on the site. Regular alien clearing activities would be required to limit the extent of this problem. This impact is highly likely to occur during the operational phase of the development.

1.2 Assessment of Impacts

The major impacts (identified above) that, may potentially or likely will occur, are assessed below, during the construction and operational phase of the substation and power line as well as before and after mitigation.

Construction Impact 1 (Construction Phase): Impacts on vegetation and protected plant species

Impact Nature: Impacts on vegetation and protected plant species would occur due to the construction of the substation.		
	Without Mitigation	With Mitigation
Extent	Local (1)	Local (1)
Duration	Long-term (4)	Long-term (4)
Magnitude	Low (2)	Low (1)
Probability	Probable (3)	Probable (3)
Significance	Low (21)	Low (18)
Status	Negative	Negative
Reversibility	High	High
Irreplaceable loss of resources	No	No
Can impacts be mitigated?	Yes, to a large extent	
Mitigation	<ul style="list-style-type: none"> • Vegetation clearing to be kept to a minimum. • The rocky patch and drainage line to be avoided as far as possible. • Protected plant species in the vicinity should be avoided as far as possible. 	
Cumulative Impacts	Cumulative impacts on vegetation are likely to be very low given the limited expected footprint of the development.	
Residual Impacts	With appropriate avoidance and mitigation residual impacts will be very low.	

Construction Impact 2 (Construction Phase): Faunal Impacts.

Impact Nature: Construction activities such as the operation of heavy machinery and the presence of construction personnel at the site would result in potential direct and indirect impacts on terrestrial fauna at the site during construction.		
	Without Mitigation	With Mitigation
Extent	Local (1)	Local (1)
Duration	Short-term (2)	Short-term (2)
Magnitude	Low (2)	Low (1)
Probability	Probable (3)	Probable (3)
Significance	Low (15)	Low (12)
Status	Negative	Negative
Reversibility	High	High

Irreplaceable loss of resources	No	No
Can impacts be mitigated?	Noise and disturbance during the construction phase cannot be avoided but would be transient in nature and with appropriate mitigation; no long-term impacts from the construction phase can be expected.	
Mitigation	<ul style="list-style-type: none"> Any fauna directly threatened by the construction activities should be removed to a safe location by the Environmental Control Officer (ECO)/ Contractor's Environmental Officer (EO) or other suitably qualified person – the ECO/EO to ensure that any relevant permits, if applicable, are obtained prior to removal of fauna. Construction staff should undergo an environmental induction at the start of the project to ensure that they are aware of the appropriate response to the presence of fauna at the site and do not kill or harm fauna such as snakes or other reptiles which are often feared. All hazardous materials used during construction should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as related to the nature of the spill. All construction vehicles should adhere to a low speed limit to avoid collisions with susceptible species such as snakes and tortoises. 	
Cumulative Impacts	The construction of the infrastructure would contribute to cumulative disturbance and habitat loss for fauna, but the contribution would be very small and is not considered significant.	
Residual Impacts	Residual impacts would be very low.	

Impact 3 (Construction Phase & Operational Phase). *Damage to the drainage line.*

Impact Nature: Mainly during upgrading of access road: Loss of vegetation responsible for stabilising soils and the eventual acceleration of erosion.

	Without Mitigation	With Mitigation
Extent	Local (1)	Local (1)
Duration	Long-term (2)	Long-term (2)
Magnitude	Low (3)	Minor (2)
Probability	Probable (3)	Probable (3)
Significance	Low (18)	Low (15)
Status	Negative	Negative
Reversibility	High	High

Irreplaceable loss of resources	No	No
Can impacts be mitigated?	Yes	
Mitigation	<ul style="list-style-type: none"> • The engineering team must provide effective means to minimise the potential downstream effects of sedimentation and erosion (erosion protection) as well as minimise the loss of vegetation responsible of stabilising the soil. • No vehicles to refuel within the drainage line. • Construction must not cause the width of the watercourse to be narrowed • Disturbed areas should be rehabilitated and re-vegetated as soon as possible. • During the operational phase, monitor culverts to see if erosion arise and if any erosion control is necessary. • Where possible culvert bases must be placed as close as possible with natural levels in mind so that these don't form additional steps / barriers. • Any stormwater within the site must be handled in a suitable manner, i.e. trap sediments, and reduce flow velocities 	
Cumulative Impacts	Increase in surface run-off velocities which in turn may lead exaggerated erosion.	
Residual Impacts	Residual impacts would be relative low.	

Impact 4: Increased alien plant invasion during operation

Impact Nature: The disturbed and bare ground that is likely to be present at the site after construction will leave the site vulnerable to alien plant invasion for some time. Furthermore, the Conservation of Agricultural Resources Act, (Act No. 43 of 1983) requires that listed alien species are controlled in accordance with the Act.		
	Without Mitigation	With Mitigation
Extent	Local (2)	Local (1)
Duration	Long-term (4)	Short-term (0)
Magnitude	Low (3)	Small (1)
Probability	Probable (3)	Improbable (2)
Significance	MEDIUM (27)	LOW (4)
Status	Negative	Neutral – Slightly Negative
Reversibility	Medium Once species have become settled and have spread into the surrounding areas management and eradication will become complicated, tedious and highly expensive.	High

Irreplaceable loss of resources	Potential loss of important resources due to the replacement of natural vegetation by invading alien plants	No
Can impacts be mitigated?	Yes, to a large extent	
Mitigation	<ul style="list-style-type: none"> • Regular monitoring for alien plants at the site should occur and could be conducted simultaneously with erosion monitoring. • When alien plants are detected, these should be controlled and cleared using the recommended control measures for each species to ensure that the problem is not exacerbated or does not re-occur. • Clearing methods should themselves aim to keep disturbance to a minimum. • No planting or importing any alien species to the site for landscaping, rehabilitation or any other purpose. 	
Cumulative Impacts	Cumulative impacts within the surrounding environment due to the spread and settlement of alien invasive species beyond the initial disturbed area will lead to the replacement of natural indigenous vegetation and subsequently in natural grazing land etc.	
Residual Impacts	With appropriate avoidance and mitigation residual impacts will be very low.	

1.3 Conclusion

- » The extent of the development footprint area in this study is very limited and furthermore restricted to an area already transformed by the existing Komsberg MTS infrastructure. Given the limited footprint of the development and the characteristics of the receiving environment, there are not likely to be any significant impacts resulting from the construction and operation of the infrastructure.
- » During the study it was found that the majority of the site can be regarded as **Low Sensitive**, with regards to fauna and flora, with the exception of the rocky patch and the drainage line which is regarded as **Medium Sensitive**.
- » The medium sensitive rockery forms a small patch within the core of Eskom's property as well as within the area of the preferred site (site alternative one). The proposed footprint area of site alternative two is situated just east of this rocky

patch, although constructing activities is still expected to potentially impact on this area due to the close proximity.

- » Regarding the drainage line, it is highly unlikely that the new proposed upgrading of the Komsberg Substation will have any further significant effects on an already altered drainage line. The upgrading (widening) of the access road, on the other hand, will impact on the drainage line as the drainage line is crossed by the current access road. However, the upgrading of the access road has the potential to ameliorate past impacts, which include moderate levels of erosion. This can be done by constructing suitably sized culverts with stormwater and erosion control features such as gabions. The culverts should be large enough not to impede the natural flow pattern of the drainage line or channelize the flow of water as this will most probably exaggerate the effect of erosion with the potential of sedimentation occurring downstream. Although already in a permanently altered state, if the above mentioned mitigation measures is implement the condition of the drainage line can be moderately improved, especially in terms of the effects of erosion on the sandy bed and bank area and in terms of a more natural moisture retaining regime (gabions will slow down accelerated surface water flow and roughage from established vegetation will furthermore aid in moisture retainment).
- » No species of conservation concern, in terms of Threatened Status was observed during the site investigation. A few species however, were noted within the proposed footprint area, that is Protected according to Schedule 2 of the Northern Cape Nature Conservation Act, 2009 (Act No. 9 of 2009). These species are as follows:
 - All species of the family Mesembryanthemaceae: *Ruschia centrocapsula*, *Ruschia cradockensis* subsp. *triticiformis*, *Antimima pumila*, *Hammeria salteri*, *Cheiridopsis namaquensis* and *Lampranthus uniforus*.
 - All species of the genus *Colchicum* (Family Colchicaceae): *Colchicum coloratum*, *C. cuspidatum*
 - All species of the family Crassulaceae: *Crassula deltoidea*, *Crassula muscosa*, *Crassula glomerata*
 - All species of the genus *Euphorbia* (Family Euphorbiaceae): *Euphorbia mauritanica*
 - All species of the family Iridaceae: *Romulea atrandra*, *Romulea luteoflora*, *Lapeirousia plicata*, *Morea* spp. and *Babiana* spp.
 - All species of the family Orchidaceae: *Holothrix aspera*
 - All species of the genus *Oxalis* (Oxalidaceae): *Oxalis obtuse*, *Oxalis* spp.
- » Most of these protected species are capable of colonizing previously disturbed areas at an effective rate, either via the seedbank or from surrounding species. Species such as *Holothrix aspera*, *Babiana* spp. and Mesembryanthemum species such as *Hammeria salteri* and *Cheiridopsis namaquensis* occur less frequent within the

surrounding landscape and should preferably be avoided and if not possible be removed prior to the development and transplanted outside the footprint area but still in a similar habitat type. Take note that no protected species may be destroyed, removed and transplanted or disturbed in any manner without the appropriate approval (permit) from the relevant authority (Northern Cape Department of Environmental Nature Conservation).

The following mitigation measures are recommended:

- » Regarding vegetation and protected plant species:
 - Vegetation clearing to be kept to a minimum.
 - Protected plant species in the vicinity should be avoided as far as possible.
 - A preconstruction survey for the species of concern should be undertaken in the final approved footprint of the proposed development to determine which species and how many will be affected by the development.
 - Since a large proportion of the listed species at the site are geophytes or succulent species, the potential for successful translocation is high. Therefore, it is recommended where avoidance is not possible, that individuals of listed species within the development footprint should be marked and trans-located to similar habitat outside the development footprint before construction commences and under the supervision of an ecologist or someone with experience in plant translocation.
 - Permits (Authorisation) from the relevant department should be obtained prior to the commencement of any activities relating to the disturbance, destruction or removal and transplanting of these specimens.
 - Preconstruction environmental induction for all construction staff on site to ensure that basic environmental principles are adhered to. This includes awareness as to no littering, appropriate handling of pollution and chemical spills, avoiding fire hazards, minimizing wildlife interactions, remaining within demarcated construction areas etc.

- » Regarding fauna:
 - Any fauna directly threatened by the construction activities should be removed to a safe location by the ECO or other suitably qualified person.
 - Construction staff should undergo an environmental induction at the start of the project to ensure that they are aware of the appropriate response to the presence of fauna at the site and do not kill or harm fauna such as snakes or other reptiles which are often feared.
 - All hazardous materials used during construction should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner as related to the nature of the spill.
 - All construction vehicles should adhere to a low speed limit to avoid collisions with susceptible species such as snakes and tortoises.

- » Regarding the drainage line
 - The engineering team must provide effective means to minimise the potential downstream effects of sedimentation and erosion (erosion protection) as well as minimise the loss of vegetation responsible of stabilising the soil.
 - No vehicles to refuel within the drainage line.
 - Construction must not cause the width of the watercourse to be narrowed
 - Disturbed areas should be rehabilitated and re-vegetated as soon as possible.
 - During the operational phase, monitor culverts to see if erosion arise and if any erosion control is necessary.
 - Where possible culvert bases must be placed as close as possible with natural levels in mind so that these don't form additional steps / barriers.
 - Any stormwater within the site must be handled in a suitable manner, i.e. trap sediments, and reduce flow velocities.

- » Regarding the potential of invasion by alien plants:
 - Regular monitoring for alien plants at the site should occur and could be conducted simultaneously with erosion monitoring.
 - When alien plants are detected, these should be controlled and cleared using the recommended control measures for each species to ensure that the problem is not exacerbated or does not re-occur.
 - Clearing methods should themselves aim to keep disturbance to a minimum.
 - No planting or importing any alien species to the site for landscaping, rehabilitation or any other purpose.

2. Impacts on Avifauna

A total of 20 Priority Species, 25 endemic or near-endemic species, 15 raptor species and nine species with Red Data Status were recorded by SABAP1 and SABAP2 data considered as well as by EWT (2014). Eighteen of the 25 endemic or near-endemic species are small terrestrial passerines, and three (Grey-winged Francolin, Karoo Korhaan and Black Korhaan) are larger-bodied terrestrial species. Cape Crows, Pied Crows and White-necked Ravens have also been recorded frequently in the area but these are not considered to be threatened or Priority Species.

2.1 Impacts associated with the construction and operation of the proposed project

Construction Phase Impacts

Habitat Destruction and Displacement of Birds

The clearing of vegetation will result in the permanent loss of habitats for birds, although to a limited extent of approximately 440m x 450m. There will also be temporary loss of habitats (that may be rehabilitated following construction) for the construction of access roads and construction camps/laydown areas etc. This may have an impact on birds breeding, foraging and roosting, and may also result in species being displaced, from the immediate area. The extent of the site is relatively small (approximately 20 hectares) and the habitat is not particularly unique in the area and the impact therefore represents a low significance. Mitigation measures beyond generally accepted environmental best-practices to reduce the destruction of natural vegetation, are limited. From the findings of the Ecology assessment it however appears that any disturbed areas should re-establish relatively easily given the species identified and their ability to colonize previously disturbed areas at an effective rate.

Nature The clearing of vegetation will result in the permanent loss of habitats for birds. There will also be temporary loss of habitats (that may be rehabilitated following construction) for the construction of access roads and construction camps/laydown areas etc. This may have an impact on birds breeding, foraging and roosting, and may also result in species being displaced, from the immediate area.		
	<i>Without mitigation</i>	<i>With mitigation</i>
<i>Extent</i>	1	1
<i>Duration</i>	5	5
<i>Magnitude</i>	3	2
<i>Probability</i>	4	3
<i>Significance</i>	Medium (36)	Low (24)
<i>Status</i>	Negative	Negative

Reversibility	Low	Low
Irreplaceable loss of resources	No	No
Can impacts be mitigated	Partially	-
Mitigation:		
<ul style="list-style-type: none"> Existing roads should be used where possible. The minimum footprint areas of infrastructure should be used wherever possible. A site specific Construction Environmental Management Plan (CEMP) must be implemented, which gives appropriate and detailed description of how construction activities must be conducted to reduce unnecessary destruction of habitat. All contractors are to adhere to the CEMP and should apply good environmental practice during construction. During construction temporary access roads should be kept to a minimum in order to limit direct vegetation loss and habitat fragmentation, while designated no-go areas must be enforced i.e. no unnecessary off road driving should be allowed. Following construction, rehabilitation of all areas disturbed (e.g. temporary access tracks and laydown areas) must be undertaken and to this end a habitat restoration plan is to be included within the Construction Environmental Management Plan (CEMP). 		
Cumulative impacts:		
There are currently at least 4 potential new Wind Energy Facilities (WEFs) proposed within a 20 km radius around the project site, all of which will (if constructed) consist of additional electrical infrastructure including facility substations and power lines. The cumulative impact of Habitat Destruction and Displacement of Birds is therefore expected to be of Medium Significance, should all surrounding projects be approved and constructed.		
Residual impacts:		
Yes. Although somewhat reduced, the residual impacts of habitat destruction on birds following mitigation will have a Medium significance.		

Disturbance and Displacement of Birds

Disturbances and noise may result in species being displaced, either temporarily (i.e. for some period during the construction activity) or permanently (i.e. they are disturbed and do not return), from the project site. Mitigation can reduce the disturbance resulting in a Low significance.

Impact Significance Assessment: Disturbance and Displacement of Birds

Nature: Disturbances and noise from staff and construction activities can impact on certain sensitive species, both on and beyond the project site, particularly whilst feeding and breeding. This may result in these species being displaced, either temporarily (i.e. for some period during the construction activity) or permanently (i.e. they are disturbed and do not return), from the project site.		
	Without mitigation	With mitigation
Extent	2	1
Duration	2	2
Magnitude	4	2
Probability	4	3
Significance	Medium (32)	Low (15)
Status	Negative	Negative

Reversibility	Low	Medium
Irreplaceable loss of resources	No	No
Can impacts be mitigated	Yes	-
Mitigation:		
<ul style="list-style-type: none"> • A site specific CEMP must be implemented, which gives appropriate and detailed description of how construction activities must be conducted to reduce unnecessary destruction of habitat. All contractors are to adhere to the CEMP and should apply good environmental practice during construction. • The appointed Environmental Control Officer (ECO) must be trained by an avifaunal specialist to identify the potential Red Data species as well as the signs that indicate possible breeding by these species. The ECO must then, during his/her regular audits/site visits, make a concerted effort to look out for breeding activities of Red Data species, and such effort may include the training of construction staff (e.g. in Toolbox talks) to identify Red Data species, followed by regular questioning of Staff as to the regular whereabouts on site of these species. • If any of the Red Data species are confirmed to be breeding (e.g. if a nest site is found) within 500m of construction activities an avifaunal specialist is to be contacted and called to site immediately for further assessment of the situation and instruction on how to proceed. 		
Cumulative impacts:		
<p>There are currently at least 4 potential new Wind Energy Facilities (WEFs) proposed within a 20 km radius around the project site, all of which will (if constructed) consist of additional electrical infrastructure including facility substations and power lines. Considering that that the majority of the species likely to be disturbed and displaced have suitable habitat beyond the project site, the cumulative impact of Disturbance and Displacement of Birds is therefore expected to be of Low to Medium Significance, should all surrounding projects be approved and constructed.</p>		
Residual impacts:		
<p>Yes. It is likely that some birds, regardless of mitigations, will be disturbed and possibly displaced however the level of significance is reduced to Low.</p>		

Operational Phase Impacts

Electrocution of Birds

Electrocution refers to the scenario where a bird is perched or attempts to perch on the electrical structure and causes an electrical short circuit by physically bridging the air gap between live components and/or live and earthed components (van Rooyen, 2004). Electrocutions within the substation, during its operation, could potentially have a negative impact on a variety of bird species, particularly those species that regularly utilize the electrical infrastructure within the substation yard on which to perch, or breed and nest as well as those tolerant of disturbances e.g. crows, herons, sparrows, owls, kestrels, falcons and geese. Nesting of small passerine birds, crows or ravens on or within substation infrastructure may also lead to electrocutions and outages. Mitigation measures may reduce the number of electrocutions and outages experienced at the substation, with the resulting impact significance being Low.

TABLE 5: Impact Significance Assessment: Electrocutation.

Nature: Electrocutation occurs when a bird causes an electrical short circuit by physically bridging the air gap between live components and/or live and earthed components of electrical infrastructure, usually resulting in mortality.		
	Without mitigation	With mitigation
Extent	1	1
Duration	5	5
Magnitude	8	8
Probability	3	2
Significance	Medium (42)	Low (28)
Status	Negative	Negative
Reversibility	Low	Low
Irreplaceable loss of resources	Yes	Yes
Can impacts be mitigated	Yes	-
Mitigation:		
<ul style="list-style-type: none"> • Bird perch deterrents and physical exclusion barriers, frames and covers may reduce incidence of birds perching and nesting on infrastructure. • Insulating, covering or isolating hardware (e.g. >180 cm between phase conductors or phase conductors and grounded infrastructure) may reduce electrocutions and outages. • Electrocutations to be monitored and recorded, and reported to the Endangered Wildlife Trust's (EWT) Wildlife and Energy Programme (WEP) to determine if further mitigation action is required. • Potential Faulting (caused by nesting and perching of birds on structures in the substation) may require detailed, site specific mitigation dependent on the precise design and equipment in the new substation. Upon completion of construction, an avifaunal specialist is to be contacted to determine if mitigation is required and if so, what mitigation measures are to be implemented. • No nests may be removed, without first consulting the Endangered Wildlife Trust's (EWT) Wildlife and Energy Programme (WEP). 		
Cumulative impacts:		
<p>There are currently at least 4 potential new Wind Energy Facilities (WEFs) proposed within a 20 km radius around the project site, all of which will (if constructed) consist of additional electrical infrastructure including facility substations and power lines. Considering that effective mitigations are available and assuming that that all new electrical infrastructure associated with the surrounding WEFs will be constructed using safe 'bird friendly' design, the cumulative impact of Electrocutation is therefore expected to be of Low to Medium Significance.</p>		
Residual impacts:		
Yes. Low Significance.		

2.2 Conclusion

In conclusion, the proposed project presents a low level of impact with the application of the listed mitigation measures. The habitat in the project site is not particularly unique and given the relatively small extent of the site only a small area of habitat will be lost. The identified flora species that might be affected have also been found to be capable of colonizing previously disturbed areas at an effective rate, and therefore it is possible that some displaced avifauna may return to utilise the successfully rehabilitated areas. Although there are numerous species susceptible to electrocutions that may potentially be present on the project site, effective mitigation measures exist to mitigate this impact to a Low significance. The cumulative impacts of the proposed project together with proposed similar developments (i.e electrical infrastructure developments) within a 20 km radius may have a low to medium significance.

3. Assessment of Potential Impacts on Heritage Sites

The proposed area for the developments is relatively flat, well-covered with dense grass and dotted with numerous anthills. The construction of the existing Eskom Poseidon Substation, several power lines, roads and small scale farming activities has disturbed the area severely in the past. Due to the dense grass cover the archaeological visibility was poor and no archaeological or historical sites/materials were observed. However, it is possible that such remains may be covered by soil and vegetation.

3.1 Construction Phase

The proposed area for the extension of the Komsberg Substation is covered in Karoo vegetation comprising shrubs and grasses. Overall, the archaeological visibility was relatively good except where dense clumps of Karoo vegetation occurred (Figures 6-9).

No heavily disturbed or eroded areas occurred within the Alternative 1 proposed development area. Only the area around the substation has been disturbed in the past with its construction and continued maintenance. Alternative 2 has been disturbed by the construction and associated activities with the establishment of the existing substation. The access gravel roads adjacent to existing substation proposed for the widening was investigated for the occurrence of possible archaeological remains, stone artefacts are often observed within the surface disturbed gravel roads.

No archaeological heritage remains were observed during the investigation. It is possible that stone artefacts may occur below the vegetation cover between the surface and 50 – 80 cm below the ground. However, it is unlikely that archaeological heritage sites, features and remains occur *in situ* or should be encountered during the proposed construction of the development.

The proposed area for development is considered as having a *low archaeological significance*.

- Assess the significance of direct, indirect and cumulative impacts:

Assessment of the significance the proposed extension of the existing Komsberg Substation and widening of the access road: Archaeological and Historical Heritage Remains including Formal and Informal Burials

Nature: Archaeological and Historical Heritage Remains including Formal and Informal Burials		
	Without mitigation	With mitigation
Extent	Local (1)	Local (1)
Duration	Permanent (5)	Permanent (5)
Magnitude	Low (4)	Low (4)
Probability	Highly Probable (2)	Probable (2)
Significance	Low (12)	Low (12)
Status (positive or negative)	Negative	Neutral unless archaeological heritage remains are uncovered during the construction which would then be Negative
Reversibility	None	Low
Irreplaceable loss of resources?	Low	Low
Can impacts be mitigated?	No	Yes
Mitigation:		
<ul style="list-style-type: none"> • If the current layout is changed, an archaeological walk-through survey of the changes must be conducted and further mitigatory recommendations may be made if necessary. • If concentrations of historical and pre-colonial archaeological heritage material and/or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the South African Heritage Resources Agency (SAHRA) so that systematic and professional investigation/excavation can be undertaken. Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the pre-colonial shell middens and associated artefacts will then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue. • A person must be trained as a site monitor to report any archaeological sites found during the development. Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites. 		
Cumulative impacts:		
<ul style="list-style-type: none"> • Irreplaceable loss of archaeological heritage resources. 		

Residual impacts:

- Irreplaceable loss of archaeological heritage resources.

3.2 Conclusion

The overall area is considered as having a low archaeological significance, therefore, the development may proceed as planned. As no archaeological heritage remains were observed within both the site alternatives (Alternative 1 and Alternative 2) nor within the vicinity for the widening of the access road during the survey there is no preferential alternative site. The developer may continue development on the Preferred Site (Alternative 1). The following recommendations must be considered before development continues:

1. If the current layout is changed, an archaeological walk-through survey of the changes must be conducted and further mitigatory recommendations may be made if necessary.
2. If concentrations of historical and pre-colonial archaeological heritage material and/or human remains (including graves and burials) are uncovered during construction, all work must cease immediately and be reported to the South African Heritage Resources Agency (SAHRA) and/or the MacGregor Museum, Kimberly, so that systematic and professional investigation/excavation can be undertaken. Phase 2 mitigation in the form of test-pitting/sampling or systematic excavations and collections of the pre-colonial shell middens and associated artefacts will then be conducted to establish the contextual status of the sites and possibly remove the archaeological deposit before development activities continue.
3. A person must be trained as a site monitor to report any archaeological sites found during the development. Construction managers/foremen and/or the Environmental Control Officer (ECO) should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites.

4. Visual Impacts

The proposed power line has the potential impact the visual and sense of place of the area. However the significant of the impact is expected to be low.

Nature: Visual impact of construction on sensitive visual receptors in close proximity to the proposed power line		
	Without mitigation	With mitigation
Extent	Local (3)	N/A
Duration	long-term (4)	N/A

Magnitude	Low (4)	N/A
Probability	Probable(2)	N/A
Significance	Low (22)	N/A
Status (positive or negative)	Negative	N/A
Reversibility	Yes	N/A
Irreplaceable loss of resources?	Possible	N/A
Can impacts be mitigated?	No	
Mitigation:		
<p>Mitigation cannot eliminate the negative visual effect on the cultural landscape and 'sense of place', however the following mitigation may lower visual impacts, which is already considered low:</p> <ul style="list-style-type: none"> » Retain / re-establish and maintain natural vegetation in all areas outside of the development footprint. » Ensure that vegetation is not unnecessarily removed during the construction period. » Reduce the construction period as far as practically possible through careful logistical planning and productive implementation of resources. » Plan the placement of lay-down areas and temporary construction equipment camps in order to minimise vegetation clearing (i.e. in already disturbed areas) wherever practically possible. » Restrict the activities and movement of construction workers and vehicles to the immediate construction site and existing access roads where practically possible. » Ensure that rubble, litter, and disused construction materials are appropriately stored (if not removed daily) and then disposed of regularly at appropriately licensed waste facilities. » Reduce and control construction dust using approved dust suppression techniques as and when required. » Restrict construction activities to daylight hours whenever possible in order to reduce lighting impacts. » Rehabilitate all disturbed areas immediately after the completion of construction works. Ensure that rubble, litter, and disused construction materials are appropriately stored (if not removed daily) and then disposed of regularly at appropriately licensed waste facilities. 		
Cumulative impacts:		
<ul style="list-style-type: none"> » The addition of the power line is not expected to add significantly to the impact associated with the wind energy 		
Residual impacts:		
<ul style="list-style-type: none"> » The visual impacts will be removed after decommissioning. 		

Implications for the project

- » The visual impacts on the users of roads and the residents of towns, settlements and homesteads within the region is expected to be low.
- » Access to power line servitude will use existing road as far as possible.

5. Palaeontological Impacts

The Komsberg MTS study area is located in an area that is underlain by potentially fossiliferous sedimentary rocks of Late Palaeozoic and younger, Late Tertiary or Quaternary, age (Sections 2 & 3). The construction phase of the proposed substation will entail excavations into the superficial sediment cover and locally into the underlying bedrock as well. The development may adversely affect potential fossil heritage within the study area by destroying, disturbing or permanently sealing-in fossils preserved at or beneath the surface of the ground that are then no longer available for scientific research or other public good. The operational and decommissioning phases of the substation are unlikely to involve further adverse impacts on local palaeontological heritage, however.

The present palaeontological heritage assessment of the Komsberg MTS study area has been commissioned as part of the Basic Assessment for this development that is being co-ordinated by Savannah Environmental (Pty) Ltd, Woodmead (Contact details: Ms Tebogo Mapinga. Savannah Environmental (Pty) Ltd. 1st Floor, Block 2, 5 Woodlands Drive Office Park, Woodlands Drive, Woodmead, 2191. Tel: +27 11 656 3237. Fax: +27 86 684 0547. Cell: +27 72 738 3836. Email: tebogo@savannahsa.com. Postal address: P.O. Box 148, Sunninghill, 2157).

5.1 Assessment of Impact

Nature: impacts on local fossil heritage resources		
	Without mitigation	With mitigation
Extent	Local (3)	N/A
Duration	long-term (4)	N/A
Magnitude	Low (4)	N/A
Probability	Probable(2)	N/A
Significance	Low (22)	N/A
Status (positive or negative)	Negative	N/A
Reversibility	Yes	N/A
Irreplaceable loss of resources?	Possible	N/A
Can impacts be mitigated?	No	
Mitigation:		
All South African fossil heritage is protected by law (South African Heritage Resources Act, 1999) and fossils cannot be collected, damaged or disturbed without a permit from SAHRA or the relevant Provincial Heritage Resources Agency;		
The palaeontologist concerned with mitigation work will need a valid fossil collection permit from SAHRA and any material collected would have to be curated in an approved depository (e.g. museum or university collection);		
» All palaeontological specialist work would have to conform to international best practice for palaeontological fieldwork and the study (e.g. data recording fossil collection and curation, final		

report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies recently developed by SAHRA (2013).

Cumulative impacts:

- » The addition of the expansion infrastructure is not expected to add significantly to the impact associated with the wind farms and power lines proposed in the area.

Residual impacts:

- » N/A

5.2 Conclusion

Construction of the proposed expanded Komsberg MTS is unlikely to entail significant impacts on local fossil heritage resources. Due to the general great scarcity of fossil remains as well as the extensive superficial sediment cover observed within the study area, the overall impact significance of the construction phase of the proposed expanded substation is assessed as LOW. This assessment applies equally to (a) the two alternative locations for the substation expansion area, neither of which is preferred on palaeontological heritage grounds, and (b) proposed widening of a short section of access road. The operational and decommissioning phases of the substation are very unlikely to involve further adverse impacts on local palaeontological heritage.

Given the low impact significance of the proposed Karusa Facility Substation near Sutherland as far as palaeontological heritage is concerned, no further specialist palaeontological heritage studies or mitigation are considered necessary for this project, pending the discovery or exposure of substantial new fossil remains during development. During the construction phase all deeper (> 1 m) bedrock excavations should be monitored for fossil remains by the responsible ECO. Should substantial fossil remains such as vertebrate bones and teeth, plant-rich fossil lenses, fossil wood or dense fossil burrow assemblages be exposed during construction, the responsible Environmental Control Officer should safeguard these, preferably *in situ*, and alert SAHRA, *i.e.* The South African Heritage Resources Authority, as soon as possible (Contact details: Mrs Colette Scheermeyer, P.O. Box 4637, Cape Town 8000. Tel: 021 462 4502. Email: cscheermeyer@sahra.org.za) so that appropriate action can be taken by a professional palaeontologist, at the developer's expense. Mitigation would normally involve the scientific recording and judicious sampling or collection of fossil material as well as associated geological data (*e.g.* stratigraphy, sedimentology, taphonomy) by a professional palaeontologist.

These mitigation recommendations should be incorporated into the Environmental Management Plan (EMP) for the Komsberg MTS expansion project.

Please note that:

- » All South African fossil heritage is protected by law (South African Heritage Resources Act, 1999) and fossils cannot be collected, damaged or disturbed without a permit from SAHRA or the relevant Provincial Heritage Resources Agency;
- » The palaeontologist concerned with mitigation work will need a valid fossil collection permit from SAHRA and any material collected would have to be curated in an approved depository (e.g. museum or university collection);
- » All palaeontological specialist work would have to conform to international best practice for palaeontological fieldwork and the study (e.g. data recording fossil collection and curation, final report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies recently developed by SAHRA (2013).

6 Social Impacts

During construction of the Komsberg MTS, a small number of temporary jobs will be created. Negative impacts associated with the construction of a Komsberg MTS relate to noise, dust, traffic, risk of damage to existing farm infrastructure. Negative social impacts can be avoided by implementation of appropriate construction site management measures. Overall, negative social impacts are expected to be of low significance.

Nature: Potential impacts on the social environment, including landowners, risk to farm infrastructure and disturbance associated with the Expansion of the Komsberg MTS and associated infrastructure		
	Without mitigation	With mitigation
Extent	Local (2)	Local (1)
Duration	Short-term (4)	Short-term (1)
Magnitude	Minor(2)	Low(4)
Probability	Probable(3)	Probable(3)
Significance	Low (24)	Low (9)
Status (positive or negative)	Negative	Negative
Reversibility	Yes	Yes
Irreplaceable loss of resources?	Possible	Likely
Can impacts be mitigated?	Reasonably	

Mitigation:

- » The movement of construction workers on and off the site should be closely managed and monitored by the contractors.
- » Incoming and outgoing vehicles should be monitored to control traffic
- » Use dust suppressing measures on all gravel access roads throughout the construction phase.
- » Employ local staff, as far as possible.
- » Attempt to provide skills development/ training for local employees.

Cumulative impacts:

- » Influx of construction workers in the area.

Residual impacts:

- » Skills development and training could occur

Implications for Project Implementation

- » Locals should be provided an opportunity to be included in a list of possible local suppliers and service providers for the construction phase.
- » Social benefits in terms of training, skills development and the use of local labour should thus be aspired to. These skills can be transferable to other employment sectors and would result in further sustainable benefits.
- » The Local Municipality and community representatives and neighbouring property owners should be kept informed of the progress, decisions taken with regards to the development and construction schedules.
- » Public complaints should be recorded by utilizing a complaints register.

7 No Go Alternative

The 'Do nothing' alternative is the option of not expanding the Komsberg MTS and associated infrastructure. This option will result in limited or no impacts occurring on the environment. However, this will potentially result in proposed and approved renewable energy facilities in the area not being able connect to the national electricity grid or in a situation where they will be required to construct long overhead power lines and additional substations that could potentially result in significantly higher environmental impacts. This would result in negative impacts at a local, regional and national scale from a socio-economic and economic perspective and is not considered desirable. The negative impacts of the no go alternative are considered to outweigh the low impacts of this proposed development. The 'Do nothing' alternative is, therefore, not a preferred alternative.

8 Conclusions regarding the impacts associated with the expansion of the Komsberg MTS

This Basic Assessment includes an assessment of the cumulative impacts associated with all components of the proposed Expansion of the Komsberg MTS and associated infrastructure.

The following conclusions regarding the proposed Expansion of the Komsberg MTS and associated infrastructure have been made:

Ecology: The extent of the development footprint area is very limited and furthermore restricted to an area already transformed by the existing Komsberg MTS infrastructure. It was found that the majority of the site can be regarded as Low Sensitivity with the exception of the rocky patch which is regarded as Medium Sensitive. Given the limited footprint of the development and the characteristics of the receiving environment, impacts resulting from construction phase as well as operational phase can be regarded as **Low Significance** with the most significant impacts being vegetation removal and the temporary disturbance of the drainage line during the upgrading/widening of the access road. The proposed upgrading/widening of the access road might result in a positive impact to the drainage line considering that the placement of a culvert will improve flow which is currently impeded. From an ecological perspective, both Layout Alternatives (1 and 2) are considered acceptable.

Avifauna: The habitat in the project site is not particularly unique and given the relatively small extent of the site, only a small area of habitat will be lost. The identified flora species that might be affected have also been found to be capable of colonizing previously disturbed areas at an effective rate. Although there are numerous bird species susceptible to electrocutions that may potentially be present on the project site, effective mitigation measures exist to mitigate this impact to a **Low Significance**. From an Avifaunal perspective, both Layout Alternatives (1 and 2) are considered acceptable.

Heritage: The overall area is considered as having a **Low Archaeological Significance**, and therefore, the development may proceed as planned. As no archaeological heritage remains were observed within both the layout alternatives (Alternative 1 and Alternative 2) nor within the vicinity of the widening of the access road during the survey there is no preferential alternative site. The developer may continue development on the Preferred Site Layout (Alternative 1) or Alternative Layout 2.

Palaeontology: The proposed expansion of the Komsberg MTS is unlikely to entail significant impacts on local fossil heritage resources. Due to the general scarcity of fossil remains as well as the extensive superficial sediment cover observed within the study area, the overall impact significance of the construction phase of the proposed expanded MTS and associated access road widening/ upgrading is considered to have **Low Significance**. The operational and decommissioning phases of the MTS are very unlikely to involve further adverse impacts on local palaeontological heritage. From a

Palaeontological perspective, both Layout Alternatives (1 and 2) are considered acceptable.

Social Impact: Social impacts are expected during all phases of the development and are expected to be both positive and negative. Impacts are expected to be of **Low Significance** for the various issues identified. Impacts, which are already low, can be minimised or enhanced through the implementation of the recommended management measures. From a social perspective, both Layout Alternatives (1 and 2) are considered acceptable.

Visual Impacts: The proposed expansion of the Komsberg MTS and associated infrastructure as assessed in this Basic Assessment Report is not likely to contribute significantly to the visual impacts associated with existing Komsberg MTS and associated infrastructure. Therefore the potential visual impacts associated with the proposed Komsberg MTS and associated infrastructure are expected to have a **Low Significance** and should not alter/influence the outcome of the project decision-making. From a visual perspective, both Layout Alternatives (1 and 2) are considered acceptable.

Overall conclusion

Based on the findings of the studies undertaken, in terms of environmental constraints and opportunities identified through the Environmental Basic Assessment process, no environmental fatal flaws were identified to be associated with the construction of the proposed power line, facility substation complex and associated infrastructure. Impacts are expected to be **low** after the implementation of appropriate mitigation and it is recommended that the proposed development can therefore be implemented. With reference to the information available at this planning approval stage in the project cycle, the confidence in the environmental assessment undertaken is regarded as acceptable.

SECTION B: ASSESSMENT OF CUMULATIVE IMPACTS

This Basic Assessment includes an assessment of the cumulative impacts associated with the proposed Expansion of the Komsberg MTS and associated infrastructure which will accommodate the connection of the renewable energy projects proposed and authorised in the area.

Cumulative impacts from the both layout alternative 1 and 2 would result from impacts arising from the expansion of the Komsberg MTS and associated infrastructure, the construction of multiple renewable energy facilities and power lines being constructed in the area. As this infrastructure is generally located within the existing Komsberg MTS boundary, the contribution of this infrastructure to the cumulative impacts in the area is considered to be of **Low Significance**.

OVERALL CONCLUSION REGARDING THE EXPANSION OF THE KOMSBERG MAIN TRANSMISSION SUBSTATION (MTS) AND ASSOCIATED INFRASTRUCTURE

From the specialist studies undertaken and the assessment by the EAP, the preferred options for the proposed expansion of the Komsberg MTS (i.e. Alternative layout 1) and associated infrastructure are considered to be acceptable from an environmental perspective. The proposed expansion of the Komsberg MTS and associated infrastructure location is also considered technically and financially feasible based on detailed design and discussions with Eskom (the proponent).

Based on the findings of the studies undertaken, in terms of environmental constraints and opportunities identified through the Environmental Basic Assessment process, no environmental fatal flaws were identified to be associated with the construction of the proposed MTS expansion and associated infrastructure. Impacts are expected to be of Low Significance after the implementation of appropriate mitigation and it is recommended that the proposed development can therefore be implemented. With reference to the information available at this planning approval stage in the project cycle, the confidence in the environmental assessment undertaken is regarded as acceptable.